**Fractions Across Strands: K-5**

**Compiled by the K-4 Breakout Group: July 2012**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strand** | **Kindergarten** | **Grade One** | **Grade Two** | **Grade Three**  **(completed by two groups)** | **Grade Four** | **Grade Five** |
| **Data Management and Probability** | * Graphing * Representations * Sort, classify and compare objects (“I sorted my animals by size”) * Including fraction language into oral discussions | * Read primary data presented in concrete graphs and pictographs, and describe the data using comparative language * Pose and answer questions about collected data * Demonstrate an ability to organize objects into categories by sorting and classifying objects using attributes and by describing informal sorting experiences * Collect and organize primary data that is categorical and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs and a variety of recording methods | * Read primary data and describe data (eg ½ of our class likes pizza) * Pose and answer questions about class-generated data in concrete graphs, pictographs, line plots, simple bar graphs, tally chart * Probability – describe the probability of likelihood of an event occurring (equally likely = ½ or “fair”) | * Bars on a bar graph (eg comparing sizes in fractions * Scale: break number lines into equal parts * Reading pictographs in fractions * Reading and writing probability outcomes in fractions * Predicting frequency of outcomes * Organize objects into categories * Describe data using comparative language (how many of each fraction?) * Demonstrate an understanding of mode (eg three times out of six) * Predict the frequency of an outcome (spinners are fractions) * Demonstrate an understanding of fairness in a game (equal spaces on spinner – fractions …equals fairness) | * Record data using fractional notation (eg 6 out of 25 prefer breakfast =6/25) * Using grid paper to represent data in half units * Record median with half * Predict outcome and record using fractional notation | * Ratio * Spinner has 4 equal sections equals one quarter |
| **Geometry and Spatial Sense** | * G3.1 Explore, sort and compare traditional and non-traditional 2-D shapes and 3-D shapes (use language of fractions; compare fractional shapes) * G3.2 Identify and describe, using common geometric terms (then can talk about what shapes combined become other shapes? Fraction talk * G3.3 compose pictures, and build designs, shapes and patterns using 2-D shapes and decompose 2-D shapes into smaller shapes →breaking up into fractions | * Trace and identify the 2D faces of 3D figures, using concrete models (parts of the whole) * Locate shapes in the environment that have symmetry and describe the symmetry (paper folding) * Identify and describe shapes within other shapes (pattern blocks) * Cover outline puzzles with 2D shapes (how many parts?) use tangrams and pattern blocks * Create symmetrical designs and pictures, using concrete materials (paper folding) | * Locate line of symmetry in a two-dimensional shape * Create symmetrical designs * Describe pictures, designs and patterns by combining 2-dimensional shapes | * Composing shapes * Symmetry (congruent halves) * Rotations (fourth turn, half turn) * Describe relationships between 2-D shapes and 3-D shapes and 3-D figures (overall) * Compare various polygons (relative size) * Describe 2-D shapes found on 3-D figures (trace faces:   3/5 of faces are  ) | * Symmetry – comparing half/halves * Comparing polygons using fractional notations * Identify angles using fractional notation | * Parts of angles to make 180° eg 90°, 45° * Nets (depending on shape) |
| **Patterning and Algebra** | * Overall: explore, recognize, describe and create patterns using a variety of materials in different contexts * Discuss fractions that you can identify or groups of or sets of * P4.1 Make a pattern with blocks and then identify a fraction from the repeating pattern * P4.2 Identify and describe patterns in everyday contexts \*use fractional language as you describe the objects seen in the pattern | * Create a repeating pattern using one attribute (eg using pattern blocks in which half are squares and half are circles) * When looking at a pattern using one attribute, describe what part of one attribute using half, third, and/or quarter (eg when stringing my beads in a pattern of 2 red 1 white, one third are white) | * Identify, describe, extend and create repeating patterns, growing patterns and shrinking patterns by the repeated addition or subtraction of 1s, 2s, 5s, 10s, 25s on a number line * Identify repeating, growing, and shrinking patterns found in real-life contexts * Demonstrate an understanding of the concept of equality * Represent through investigations with concrete materials, expressions that are equal | * When making a repeating pattern you can describe the attributes eg 2/3 are yellow, 1/3 is red * Clapping and stomping in 2/4 times you are clapping , 2/4 you are stomping * Skip counting on a number line * Doubling/   halving   * Multiplication/   division 30÷3=10 so 10 is 1/3 of 30 | * Equality = equivalent fractions * Growing, shrinking patterns * Set model in patterns * Sets and parts of whole pattern | * Growing and shrinking using decimals * Equality doesn’t mean “the answer is”   4+5=9  Part of the set that make the whole of 9 |
| **Measurement** | * M2.1 Compare and order two or more objects according to an appropriate measure (eg could talk about how one object is one-half the length) * M2.3 Demonstrate through investigation a beginning understanding of non-standard units that are the same type but not always the same size (eg two blocks that are different lengths could be compared as a fraction) | * Demonstrate an understanding of the use of non-standard units of the same size for measuring (measure desk in different ways) * Estimate, measure and record lengths, heights and distances (my height) * Construct tools for measuring (cheerios ruler) * Time * Calendar * Compare objects by linear measurements | * Measure and estimate area * Length and perimeter * Mass and capacity * Time * Estimate and measure and record length, height and distance (area) (capacity and mass) using standard and non-standard units * Tell and write time to the quarter-hour   Measurement relationships:   * Describe through investigation the relationship between the size of a unit of area and the number of units needed to cover a surface * Compare and order a collection of objects by mass and/or capacity using standard and non-standard units * Determine through investigation the relationship between days and weeks and months and years | * Estimate, measure and record length, height and distance using standard units * Draw items using a ruler, given lengths in cm * Time on an analogue clock * Estimate, read and record temperature from a thermometer in Celsius * Perimeter of 2-D shapes * Mass of objects using the standard unit of the kg, gm parts of a kg (eg half and quarter) * Estimate, measure and record the capacity of containers using the standard unit of the litre or parts of a litre (half or quarter) * Mass, capacity eg weighing on balance scales * Number line work on rulers * Area * Temperature (spring temp is half of room temp) * Time – quarter past (one fourth past ☺) * Perimeter – unknown side lengths | * Represent time ¼, ½, ¾ hour * Volume, mass * Days of the week 1/7; months of the year 1/12 * Perimeter; area | * Telling time to nearest second * Months * Temperature changes over time * Area on grids * Parts of a standard measurement (eg # of centimeters in a metre) |